

*Abstract*

5           The present invention makes available a method for inducing neuronal differentiation  
and preventing the death or degeneration of neuronal cells both *in vitro* and *in vivo*. The  
subject method stems from the unexpected finding that, contrary to traditional understanding  
of neural induction, the default fate of ectodermal tissue is neuronal rather than mesodermal  
and/or epidermal. In particular, it has been discovered that preventing or antagonizing a  
10 signaling pathway in a cell for a growth factor of the TGF- $\beta$  family can result in neuronal  
differentiation of that cell.